
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

Gordon P. Eaton, Director

Reston, VA 20192

For information, contact:

Gerald R. Smith, Commodity Specialist

Telephone: (703) 648-4983, Fax: (703) 648-7757

E-mail: grsmith@usgs.gov

Richelle Gipe (Data), (703) 648-7961

MINES-DATA: (703) 648-7799

MINES FaxBack: (703) 648-4999

Internet: <http://minerals.er.usgs.gov/minerals>

LEAD IN OCTOBER 1996

Primary refinery production remained essentially unchanged in October and secondary refinery production was up by about 7%. Total production of refined lead, primary plus secondary, through the first 10 months of 1996 was about 2% more than production in same period of 1995. Reported consumption in October increased by about 5% compared with that of consumption in September.

According to Platt's Metals Week published quotations, the average North American producer price and the average London Metal Exchange (LME) cash price declined for the second consecutive month, decreasing by 1.06% and 6.84%, respectively, in October.

National Defense Stockpile cash disposal (sale) of lead in October, the first month of fiscal year 1997, was 1,245 metric tons (1,372 short tons).

The Occupational Safety and Health Administration (OSHA), the Lead Industries Association, Inc. (LIA), and the Battery Council International (BCI) jointly announced a new voluntary industry initiative that will significantly reduce worker exposure to lead. As of the announcement date, 33 companies that produce or use lead had agreed to participate in the 5-year program. Under OSHA's current standards, employers are required to relocate a worker subjected to lead exposure above the action level to an area of lower lead exposure when the worker's average blood lead concentration is at or above 50 micrograms per 100 grams of whole blood. The worker may not be returned to the initial work area until the level of lead in the blood drops to 40 micrograms per 100 grams. In the new, voluntary, 5-year industry initiative, the signatory companies agreed to reduce, at a rate of 2 micrograms per 100 grams per year, the blood lead level at which the worker is required to be relocated, and by 1 microgram per 100 grams per year the level at which the worker is subsequently allowed to return to the initial work area.¹

The Greens Creek polymetallic mine on Admiralty Island, near Juneau, AK, is expected to be back in full operation by the first quarter of 1997, a few months ahead of schedule. The mine was first opened in 1989 but was placed on care and maintenance status in 1993, when low metal prices forced the operation to be shut down. In early 1995, redevelopment of Greens Creek was begun in a joint venture between Kennecott Minerals Corp., Salt Lake City, UT (70.3%), and Hecla Mining Co., Coeur d'Alene, ID (29.7%). In 1997, about 19,000 tons of lead and 38,000 tons of zinc in concentrate are expected to be produced at Greens Creek, along with 45,000 ounces of gold and 9 million ounces of silver. At these production rates, the combined reserves in three ore zones at Greens Creek are sufficient to extend the life of the mine for 17 years.²⁻³

ASARCO Incorporated, New York, NY, announced plans to close its Leadville, CO, lead-zinc-silver mine indefinitely at the end of 1996, citing economic factors in its decision to close the facilities. The mine will be placed on care and maintenance status in order to conserve existing reserves. The mill at Leadville had been shut down since August 1996 because of a structural failure.⁴ According to Asarco's 1995 Annual Report to its stockholders, annual production of lead and zinc in concentrate at Leadville was about 4,500 metric tons and 14,000 metric tons, respectively.

Rhonda Mining Corp., Calgary, Canada, reported that recent drilling results from the Esker deposit on its Epworth property, Northwest Territories, revealed significant lead, zinc, and silver mineralization. Assays of initial drill samples showed ore grades of 1.36% to 10.8% lead, 0.04% to 2.13% zinc, and 0.06 to 0.61 ounces per ton silver. Company geologists estimate that the Esker deposit could contain as much as 100 million tons of mineralization. Rhonda Mining co-owns the Epworth property with Noranda Mining and Exploration, Inc., Toronto, Canada, sharing equally in the development of the property.⁵

Gold Fields Namibia Ltd. reached agreement with its striking mineworkers on October 5, 1996, allowing for an anticipated resumption of operations at the Tsumeb lead and copper smelters by the end of the year. Gold Fields expects to obtain concentrates from three of its mines as well as from outside sources. A company spokesman indicated, however, that annual production at the smelters may be down slightly from that of previous operations.⁶

Société Minière de Bougrine SA suspended indefinitely mining and milling operations at its zinc-lead mine in Tunisia. The decision was made following a determination that the required investment to lower operating costs was not justifiable in light of current zinc prices. Bougrine opened its facilities in mid-1994, producing 38,000 metric tons of zinc and 6,300 metric tons of lead in concentrates in 1995. Inmet Mining Corp., Toronto, Canada, holds a 48% interest in the Bougrine mining and milling operations.⁷

Zambia's Kabwe Power and Metal Company (KPM) announced that it planned to reopen the Kabwe lead-zinc mine, which had been closed since May 1994. KPM, who recently completed purchase of the mine from Zambia Consolidated Copper Mines (ZCCM), was formed after the 1994 closure by a group of ZCCM's former Kabwe Mine employees. Production at Kabwe is expected to reach 18,000 tons of zinc and 13,000 tons of lead annually by 1999 and to extend over a 25- to 30-year life span.⁸

Industry Association's Plan To Voluntarily Reduce Worker's Lead Exposure. Washington, DC, October 1996, 1p.

²Mining Journal, London. Kennecott Recommissions Greens Creek. V. 327, No. 8401, Oct. 25, 1996, p. 326.

³The Mining Record. Full Production At Greens Creek Projected For First Quarter Of '97. V. 107, No. 44, Oct. 30, 1996, p. 5.

⁴Platt's Metals Week. Asarco To Close Zinc/Lead Mine. V. 67, No. 43, Oct. 28, 1996, p. 3.

⁵The Northern Miner. Rhonda Confirms Find Of Lead-Zinc-Silver in Territories. V. 82, No. 33, Oct. 14, 1996, p. 14.

⁶Metal Bulletin. Tsumeb Delayed To End Of 1996. No. 8120, Oct. 14, 1996, p. 5.

⁷Platt's Metals Week. Bougrine Zn/Pb Mining Suspended. V.67, No. 42, Oct. 21, 1996, p. 10.

⁸Metal Bulletin. KPM To Re-open Kabwe Mine. No. 8125, Oct. 31, 1996, p. 7.

Publications on the Internet

Monthly, quarterly, and annual Minerals Information publications are now available through the World Wide Web (www). These publications include Mineral Commodity Summaries, Minerals Yearbook, Mineral Industry Surveys, and Metal Industry Indicators. To access Minerals Information publications, visit the Minerals Information home page at <http://minerals.er.usgs.gov/minerals>.

¹Lead Industries Association, Inc. Media Release. OSHA Endorses Lead

TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES 1/

(Metric tons)

	1995 p/		1996		
	Year total	Jan. - Oct.	Sept.	Oct.	Jan. - Oct.
Production:					
Mine (recoverable)	384,000	321,000	26,900 r/	35,100	347,000
Primary refinery 2/	374,000	317,000	25,400	25,300	275,000
Secondary refinery:					
Reported by smelters/refineries	737,000	609,000	89,400	95,900	821,000
Estimated	193,000	159,000 r/	1,510	1,710	12,900
Recovered from copper-base scrap e/	15,000	12,500	1,250	1,250	12,500
Total secondary	945,000	780,000	92,100	98,800	846,000
Stocks, end of period:					
Primary refineries 2/	XX	XX	12,200 r/	7,060	XX
Secondary smelters and consumers	XX	XX	52,300 r/	54,100	XX
Imports for consumption:					
Ore and concentrates (lead content)	2,590	2,590	--	NA	3,350 3/
Refined metal	264,000	218,000	24,500	NA	189,000 3/
Consumption:					
Reported	1,600,000 r/ 4/	707,000	102,000	107,000	1,000,000
Undistributed e/	--	433,000	37,900	39,700	371,000
Total	1,600,000 r/ 4/	1,140,000	140,000	147,000	1,380,000
Exports (lead content):					
Ore and concentrates	65,500	46,100	7,890	NA	43,800 3/
Materials excluding scrap	57,200	47,900	9,350	NA	81,900 3/
Ash and residues	8,040	5,280	1,900	NA	12,300 3/
TEL/TML preparations, based on lead compounds	3,210	2,690	795	NA	2,780 3/
Exports (gross weight): Scrap	105,000	88,200 r/	7,070 5/	NA	64,900 3/ 5/
Platt's Metals Week North American producer price (cents per pound)	42.28	42.00	49.57	49.04	48.87

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Data from American Bureau of Metal Statistics, Inc. (ABMS).

3/ Includes data for January-September only; October data not available at time of publication.

4/ Includes annual data.

5/ Includes only non-battery scrap data.

TABLE 2
MONTHLY AVERAGE LEAD PRICES

	North American producer price cents/lb	LME		Sterling exchange rate dollars/£
		\$/metric ton	£/metric ton	
1995:				
October	42.46	638.67 r/	404.75	1.577929
Average Jan. - Oct.	41.80	612.21	384.66	1.583513
Year average	42.28	630.53	399.53	1.578176
1996:				
July	49.48	783.24	504.34	1.553005
August	49.59	815.23	525.99	1.549882
September	49.57	795.96	510.47	1.559290
October	49.04	741.48	467.42	1.586314
Average Jan. - Oct.	48.87	788.19	511.59	1.541315

r/ Revised.

Source: Platt's Metals Week.

TABLE 3
MINE PRODUCTION OF RECOVERABLE LEAD IN THE UNITED STATES 1/

(Metric tons)

	1995 p/		1996		
	Year total	Jan. - Oct.	Sept.	Oct.	Jan. - Oct.
Missouri	290,000	299,000 r/ 2/	25,000 r/ 2/	33,300 2/	322,000 2/
Other States 3/	93,900 2/	21,700 r/	1,960	1,810	24,600
Total	384,000	321,000	26,900 r/	35,100	347,000
Daily average 4/	1,050	1,060	897 r/	1,130	1,140

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes Alaska.

3/ Includes Colorado, Idaho, Montana, and New York.

4/ Based on number of days in period without adjustment for Sundays or holidays.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN OCTOBER 1996 1/

(Metric tons, gross weight)

Item	Stocks Sept. 30, 1996	Net receipts	Consumption	Stocks Oct. 31, 1996
Battery-lead	40,300	111,000	112,000	39,600
Soft lead	W	W	W	W
Drosses and residues	1,110	4,380	4,290	1,210
Other 2/	1,020	3,950	3,530	1,440
Total	42,500	119,000	120,000	42,200
Percent change from preceding month	--	-3.8	-4.4	-0.6

W Withheld to avoid disclosing company proprietary data; included in "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes solder, common babbitt, antimonial lead, cable covering, type metals, and other lead-base scrap not elsewhere classified.

TABLE 5
LEAD, TIN, AND ANTIMONY RECOVERED FROM LEAD-BASE
SCRAP IN OCTOBER 1996 1/

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	48,900	--	--
Remelt lead	W	W	W
Antimonial lead	42,100	11	W
Other 2/	W	W	--
Total lead-base	95,900	34	539

W Withheld to avoid disclosing company proprietary data; included in "Total."

1/ Data are rounded to three significant digits.

2/ Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 6
CONSUMPTION OF LEAD IN THE UNITED STATES 1/

(Metric tons)

Uses	1995		1996		
	Jan. - Dec. p/ r/ 2/	Jan. - Oct.	Sept.	Oct.	Jan. - Oct.
Metal products:					
Ammunition-shot and bullets	70,900	45,700	3,380	2,260	33,700
Brass and bronze-billet and ingots	8,860	5,160	506	524	5,110
Cable covering-power and communication and calking lead-building construction	6,580	4,680	708	647	5,450
Casting metals	18,100	W	126	162	1,240
Pipes, traps, and other extruded products	2,210	755	(3/)	(3/)	(3/)
Sheet lead	27,900	9,200	762	675	7,930
Solder	16,200	4,990	367	457	4,790
Storage batteries, including oxides	1,360,000	587,000	95,700	101,000	930,000
Terne metal, type metal, and other metal products 4/	11,700	5,370	127	213	3,510
Total metal products	1,520,000	663,000	102,000	106,000	992,000
Other oxides	61,700	37,800	(5/)	(5/)	(5/)
Miscellaneous uses including gasoline additives	21,900	6,010	818	888	11,900
Total reported	1,600,000	707,000	102,000	107,000	1,000,000
Undistributed consumption e/	--	433,000	37,900	39,700	371,000
Grand total	1,600,000	1,140,000	140,000	147,000	1,380,000

e/ Estimated. p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Terne metal, type metal, and other metal products."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes annual data.

3/ Withheld to avoid disclosing company proprietary data; included in "Sheet lead."

4/ Includes lead consumed in foil, collapsible tubes, annealing, plating, galvanizing, and fishing weights.

5/ Withheld to avoid disclosing company proprietary data; included in "Miscellaneous uses including gasoline additives."

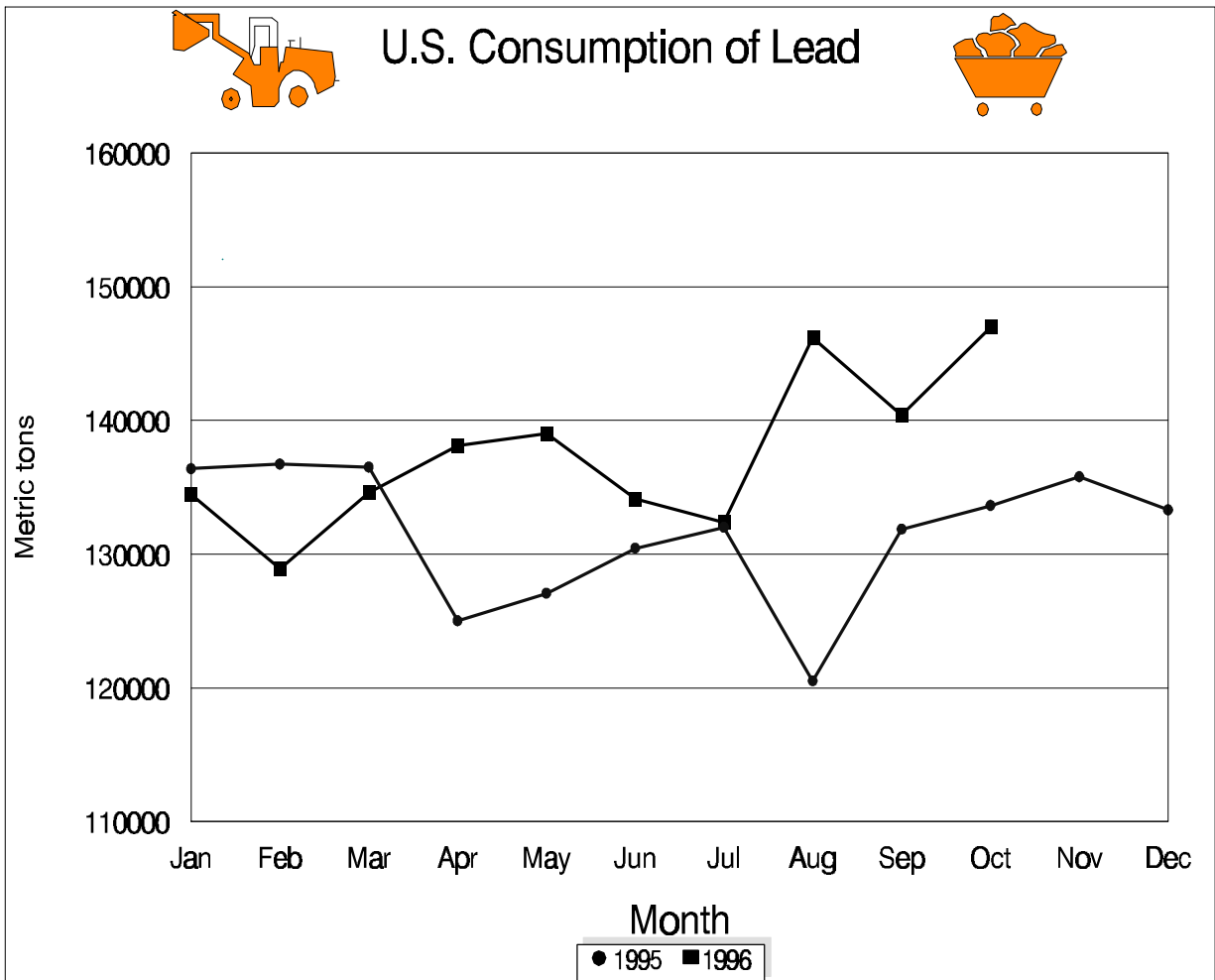


TABLE 7
CONSUMER AND SECONDARY SMELTER STOCKS, RECEIPTS, AND
CONSUMPTION OF LEAD IN OCTOBER 1996 1/

(Metric tons, lead content)

Type of material	Stocks	Net receipts	Consumption	Stocks
	Sept. 30, 1996			Oct. 31, 1996
Soft lead	16,600 r/	60,200	58,900	17,900
Antimonial lead	31,400	28,500	27,900	32,000
Lead alloys	W	20,000	20,100	W
Copper-base scrap	W	442	442	W
Total	52,300 r/	109,000	107,000	54,100

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."

1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 8
CONSUMPTION OF LEAD BY CLASS OF PRODUCT AND
TYPE OF MATERIAL IN OCTOBER 1996 1/

(Metric tons, lead content)

Class of product	Soft lead	Antimonial lead	Lead alloys	Copper-base scrap	Total
Metal products	58,200	27,900	20,100	442	107,000
Other oxides 2/	W	--	--	--	W
Miscellaneous uses	647	W	W	--	647
Total	58,900	27,900	20,100	442	107,000

W Withheld to avoid disclosing company proprietary data; included in "Metal products."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes ceramic products, glass, other pigments and chemicals, and paints.

TABLE 9
U.S. EXPORTS OF LEAD, BY CLASS 1/

(Metric tons)

	1995		Aug.	1996	
	Year total	Sept.		Sept.	Jan. - Sept.
Lead content:					
Ore and concentrates	65,500	10,300	22,200	7,890	43,800
Materials excluding scrap	57,200	4,660	15,000	9,350	81,900
Ash and residues	8,040	340	1,060	1,900	12,300
TEL/TML preparations, based on lead compounds	3,210	128	1,450	795	2,780
Total	134,000	15,400	39,700	19,900	141,000
Gross weight: Scrap	105,000	11,600	8,530 r/ 2/	7,070 2/	64,900 2/

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes only non-battery scrap data.

Source: Bureau of the Census.

TABLE 10
U.S. IMPORTS OF LEAD BY TYPE OF MATERIALS AND BY COUNTRY OF ORIGIN 1/

(Metric tons, lead content)

Country of origin	General imports					Imports for consumption				
	1995 p/		1996			1995 p/		1996		
	Year total	Jan. - Sept.	Aug.	Sept.	Jan. - Sept.	Year total	Jan. - Sept.	Aug.	Sept.	Jan. - Sept.
Ore, matte, etc.:										
Australia	1,480	1,480	--	--	--	--	--	--	--	--
Bolivia	759	610	--	--	282	--	--	--	--	--
Canada	106,000	31,100	27,600	29,600	274,000	--	--	--	--	2,370
Mexico	2,380	2,380	234	--	1,680	2,380	2,380	234	--	859
Peru	12,800	9,490	1,560	332	11,800	88	88	--	--	--
Other	984	404	--	--	133	126	126	--	--	122
Total	124,000	45,500	29,400	30,000	288,000	2,590	2,590	234	--	3,350
Base bullion:										
Mexico	31	28	--	--	--	31	28	--	--	--
Total	31	28	--	--	--	31	28	--	--	--
Pigs and bars:										
Belgium	25	25	--	11	11	25	25	--	11	11
Bulgaria	1,910	1,910	--	--	--	1,910	1,910	--	--	--
Canada	182,000	131,000	15,600	16,400	131,000	182,000	131,000	15,600	16,400	131,000
Germany	3,140	1,790	14	13	147	3,140	1,790	14	13	147
Mexico	54,300	41,000	3,390	7,310	41,800	54,300	41,000	3,390	7,310	41,800
Netherlands	42	42	--	--	--	42	42	--	--	--
Peru	22,100	13,100	2,950	700	14,900	22,100	13,100	2,950	700	14,900
Sweden	5	5	--	--	--	5	5	--	--	--
United Arab Emirates	210	199	--	10	120	210	199	--	10	120
United Kingdom	128	128	--	--	--	128	128	--	--	--
Venezuela	364	364	--	--	--	364	364	--	--	--
Other	242	242	74	36	313	242	242	74	36	313
Total	264,000	190,000	22,100	24,500	189,000	264,000	190,000	22,100	24,500	189,000
Reclaimed scrap, including ash and residues	75	47	12	--	171	75	47	12	--	171
Grand total	388,000	235,000	51,400	54,500	476,000	267,000	192,000	22,300	24,500	192,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

